CLASS V UNDERGROUND INJECTION CONTROL PERMIT APPLICATION FOR SUBSURFACE INJECTION OF FLUIDS IN CONJUNCTION WITH A GROUNDWATER REMEDIATION PROJECT

Submit in duplicate to:

Kansas Department of Health & Environment **Bureau of Water - Geology Section** **1000 S.W. Jackson Street, Ste. 420** **Topeka, KS 66612-1367**	**Date:** **Legal Description of Well(s):** **Sec. , T S, R (E)(W)** **_____ Feet from south line of SE/4 of the section** **_____ Feet from east line of SE/4 of the section** **Well(s) #:** **County:** **Top Hole Elevation:** **New Well(s):** **Well(s) being repermitted:** **Permit #:**

OPERATOR
Name & Address:

CONTACT PERSON
Name:
Phone:

In conformity with K.S.A. 65-164, 65-165 and 65-171d, the undersigned representing

_____

(Name of Company, Corporation or Person Applying)

hereby makes application to the Kansas Department of Health and Environment (KDHE) for a permit to inject non-hazardous fluids into or above an underground source of fresh or usable water by means of an injection well(s) for the purpose of remediation of contamination. This application shall be signed by an executive officer of a level of at least Vice-President.

1. The applicant shall provide documentation with this application that KDHE's Bureau of Environmental Remediation has approved a remediation plan that includes the use of the proposed injection well(s). Describe the contamination problem proposed for remediation, including a discussion of the source of contamination.

2. Describe in detail the function of the well(s) within the scope of the remediation project.

3. Describe the fluids to be injected. Include predicted concentrations of the parameters of concern in the injection fluid. Provide information for each unique injection material or additive including Material Safety Data Sheets. If materials or additives are mixed prior to batch injection, provide an analysis of the batch conditions. Otherwise provide an analysis for each material if materials are to be injected sequentially, or manifold mixed during injection. Additional testing of the fluid to be injected may be required after review of the application and pertinent information. All analyses shall be conducted by a laboratory certified by the State of Kansas.

4. Provide a description of the injection zone including lithology, hydrology, porosity, permeability, groundwater flow velocity, transmissivity, specific capacity and coefficient of storage. Include geologic maps, diagrams, geologic cross-sections, contamination concentration maps, a piezometric surface map, and results of aquifer pump tests. Provide references for the sources of the information submitted.

5. Injection Zones:

Depth to:	
Geologic Name(s)	Top	Bottom

6. Well completion:

Borehole Size	Casing Size	Material	Weight lbs/ft	Wall Thickness or Gauge #	Casing Seat Depth	Type Cement or Grout	Amount Cement or Grout	Cement or Grouted Interval from	to

Screen or perforation material:	
Type of screen or perforation openings:	

Screen or perforations intervals:

from:	to:	from:	to:
from:	to:	from:	to:

Gravel pack intervals:

from:	to:	from:	to:
from:	to:	from:	to:

To facilitate grouting, the grouted interval of the well bore shall be drilled to a minimum diameter at least three inches greater than the maximum outside diameter of the well casing. Provide information describing the seal to be used on top of the well casing. This seal shall be air and water tight. If a pitless well adapter is to be used, provide information describing the design of the pitless adapter. The pitless well adapter shall be so designed and fabricated to prevent soil, subsurface or surface waters from entering the well. If the wellhead is to be completed below the finished ground level, the wellhead shall be enclosed in a approved water tight vault. The top of the vault shall be sloped to allow drainage away from the vault. Provide information describing the design of the vault. Provide an explanation describing why it is necessary to complete the wellhead below ground level.

7. Provide a detailed schematic drawing indicating the proposed well(s) completion at the surface and subsurface.

8. Fluid Injection Rate:

   Fluids are to be injected at a minimum rate of _____ gallons/day to maximum rate of _____ gallons/day. Demonstrate by appropriate calculations the well(s) is capable of receiving the proposed maximum fluid injection rate. Provide references for sources of all values used in the calculations.

9. Injection Pressure:

   Maximum wellhead injection pressure will be _____.

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   Demonstrate by appropriate calculation's the proposed maximum injection pressure will not fracture the injection zone or damage the well components.

10. Discuss the stimulation program for the well(s), including chemical treatments and mechanical means.

11. Discuss the proposed injection procedure for the well(s) and provide a diagram. Describe the injection well pattern. Submit a design plan for the injection system including any pumps, filters, lines and tanks used in the injection system.

12. Describe the meters or gauges that will be used to measure injection volume, injection rate and injection pressure. Include the frequency of calibration.

13. Provide a plugging and abandonment plan for the well(s). The plugging plan must include the type of grout, estimated volume of grout, and a description of the grout emplacement procedure. Include a diagram of how the well will be plugged. Guidelines are attached.

14. Provide a map showing the well(s) to be permitted,, surface water bodies, springs, mines, quarries, water wells, monitoring wells, withdrawal wells, any other penetrations of the aquifer and other pertinent surface features within the 1/4 mile radius area of review. The map must be clear and readable with the 1/4 mile radius area of review drawn on the map. A tabulation of data on all the wells within the area of review must be provided including the status, type, construction, date of drilling, location, depth and plugging or completion data. Key the tabulated wells to their location on the map.

15. Provide modeling results for the proposed injection - withdrawal scenario. The model used shall be approved by KDHE's Bureau of Environmental Remediation. Documentation of this approval shall be provided with this application. Provide a plan for monitoring the effects of injection ono the groundwater system in the vicinity of the remediation project. Describe the monitoring wells to be used for ths purpose. Include the data to be collected from the monitoring wells, frequency of data collection,, data presentation format, and frequency of reporting the data to KDHE.

16. The well(s) shall be constructed by a water well contractor licensed by KDHE. Provide the contractor's name, business address and KDHE license number.

17. The following must be submitted to and approved by KDHE upon completion of the well(s).

    A. A log(s) for the well(s).

    B. KDHE water well record form WWC-5.

    C. Complete casing, cementing or grouting, and screening information. Include work reports, work tickets or other documentation.

    D. A schematic drawing showing the actual completion of the well(s) at the surface and subsurface, if different from the proposed completion.

AUTHORITY

To whom should future correspondence be addressed:

Name: _____

Address: _____

City, State, Zip: _____

_____
Signed

I hereby certify that the statements herein are true and correct to the best of my knowledge and belief.

_____
Signature of Applicant or Duly Authorized Agent Title

Subscribed and sworn to before me this day of , 20 .

_____ _____ _____

Notary Public

_____

My Commission Expires

_____

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